

What is claimed is:

1. A radio frequency electronic filter comprising:
an input;
an output;
5 first and second resonators coupled to the input and the output;
the first resonator including a first voltage tunable dielectric varactor;
the second resonator including a second voltage tunable dielectric varactor,
each of the first and second voltage tunable dielectric varactors comprising a tunable dielectric
layer capable of being operated at room temperature, wherein the first and second resonators
10 comprise:
a ceramic block defining at least two openings extending from a top surface of
the ceramic block toward a bottom surface of the ceramic block.
2. The radio frequency filter according to claim 1, wherein one of the
15 dielectric varactors is connected between each of the openings and an outside surface of the
ceramic block.
3. The radio frequency filter according to claim 1, wherein the top surface
of the ceramic block is partially metallized.
- 20 4. The radio frequency filter according to claim 2, further comprising:
a first electrode positioned a predetermined distance from a first one of
the openings;
a second electrode positioned a predetermined distance from a second one of
25 the openings;
a third dielectric varactor coupled between the first electrode and the first one
of openings; and
a fourth dielectric varactor coupled between the second electrode and the
second one of the openings.
- 30 5. A radio frequency electronic filter comprising:
an input;

an output;

first and second resonators coupled to the input and the output;

the first resonator including a first voltage tunable dielectric varactor;

the second resonator including a second voltage tunable dielectric varactor,

5 each of the first and second voltage tunable dielectric varactors comprising a tunable dielectric layer capable of being operated at room temperature, wherein:

the first resonator comprises a first fixed inductor electrically connected in parallel with the first voltage tunable dielectric varactor; and

10 the second resonator comprises a second fixed inductor electrically connected in parallel with the second voltage tunable dielectric varactor.